Watching Whales: applying a new dimension in whale watching

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Pathways to Success 2010 Conference
Question

How to contribute to sustainable management of Humpback Whales in Machailla National Park?
To design a Whale Watching Management Plan Proposal for Machalilla National Park.
Whales in Ecuador

Photo: María José Barragán / Yaqu Pacha
Whales in Ecuador

a. History:

Pre-Columbian time
(Marcos and Norton, 1979; Holm and Crespo, 1981; Scott, 1982; Staller, 2001)

- Food source
- Personal ornaments
- Carving
- Tools: labour and home
- Offering
Whales in Ecuador

a. History:

Modern time (XX century)
(Tønnessen and Johnsen, 1982)

- Whaling (1927)
Whales in Ecuador

b. Whale Watching:

Photo: María José Barragán / Yagu Pacha
b. Whale Watching:

- **Before WhWa**
  - Socio-Economical
  - Artisanal fisheries

- **After WhWa**
  - Socio-Economical
  - Artisanal fisheries
  - Tourism

- **Future WhWa**

Timeline:
- 1990
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005

- Biological Research

Starting:
- 1990
Whales in Ecuador

b. Whale Watching:

Before WhWa
- Socio-Economical
- Artisanal fisheries

Timeline
- 1997
- 1998

After WhWa
- Socio-Economical
- Artisanal fisheries
- Tourism

Future WhWa


Artisanal fisheries

Biological Research

Tourism
Whales in Ecuador

b. Whale Watching:

Before WhWa
- Socio-Economical
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After WhWa
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Future WhWa

Timeline:
- 1999
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Starting:
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Whales in Ecuador

b. Whale Watching:
Whales in Ecuador

b. Whale Watching:
Whales in Ecuador

b. Whale Watching: 2000-2005
Whales in Ecuador

b. Whale Watching:
Conflicts

Marine Protected Area

Whale Watching Area

Fishing Area

Present Situation
Conflict among users
Conflicts

- Ministry
- Environment
- Defense
- Tourism
- Tour Op.
- MNP
- Whales
Conflicts

Ministry

Environment    Defense    Tourism

MNP

Tour Op.

Fisheries    Fishermen    Whales
Conflicts
System Dynamics

Exogenous element
Tourism

System Boundary
Whales
Economic profit
Fisheries
Community

Resultant Elements
Socio-Economic benefits
Fewer Whales

¿?
Conflicts

System Dynamics

Conflicts

System Dynamics

- Exogenous element: Tourism
- System Boundary: Whales
- Resultant Elements: Economic profit, Community, Fewer Whales, Fisheries, Socio-economic benefits

Fewer Whales

Tourism

Whales

Economic profit

Community

Fisheries

Socio-economic benefits
Methodological Approach

a. Management Instruments Existing

Registro Oficial (2008)
b. Management Instruments New
Methodological Approach

b. Management Instruments New

This proposal
b. Management Plan Proposal

Legal Section
- authorities
- managers

Biological Section
- managers
- experts

Monitoring Section
- managers
- experts
- community
- users

Education Section
- managers
- experts
- community
- users

Zoning Section
- authorities
- managers
- experts
- community
- users
Methodological Approach

b. Management Plan Proposal

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Results

b. Management Plan Proposal

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- users

Zoning Section
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- experts
- community
- users

Monitoring Section
- managers
- experts
- community
- users
### Results

#### b. Management Plan Proposal

<table>
<thead>
<tr>
<th>Section</th>
<th>Participants</th>
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</thead>
<tbody>
<tr>
<td>Legal Section</td>
<td>authorities, managers, users</td>
</tr>
<tr>
<td>Education Section</td>
<td>managers, experts, community</td>
</tr>
<tr>
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<td></td>
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- users

Monitoring Section
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- community
- users
Management Plan Proposal

Conceptual Model

- Authority
- Users
- Whales
- Community
- Experts
Management Plan Proposal

Conceptual Model

- Public participation
- Law enforcement
- Research-based decisions
- Zoning
Management Plan Proposal

Healthy Whale Population

Model for the sustainable use of the Humpback Whale population (based in the System Analysis concept, from Stella©)
Management Plan Proposal

Zoning

PWP-1
Areas with permanent whale presence

OWP-2
Areas with occasional whales presence

IWP-3
Areas with incidental whale presence/probable Whale by-catch events/intensive development

Map Source: Scheidat, 2001
Management Plan

Year 1:
- Approval
- Negotiation
- Year 2
- Background Planning
- Lobbying

Year 2:
- Year 3
- Year 1
- Evaluation
- Amendments, agreements

New Knowledge
- Testing
- Execution
- Zoning
- Final Management Plan

Source: Based on Kelly, 1999, in: Keen et al., 2005
Management Plan

Source: Based on Kelly, 1999, in: Keen et al., 2005
Conclusions

1. This management plan proposal should reduce the impact on the whale resource.

2. This more comprehensive approach of management makes more likely the success of whale management.

3. This management plan proposal intends to be replicable in other zones.
Recommendations

1. Commitment among authorities is mandatory to avoid jurisdictional overlapping.

2. Effort should be applied in educating actors, mainly tourists and tour operators.

3. The actors should be aware of the risks of losing the whale resource, if so they ensure their own survivorship.
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